AMENDMENTS TO THE CLAIMS

1-9. (Canceled)

10. (Currently amended) The method according to claim [[1]] 23, wherein said triacetylcellulose is coated on beads.

11. (Canceled)

12. (Currently Amended) The method according to claim [[1]] 23, wherein the sample solution is a solution prepared by adding a water-soluble organic solvent to a solution obtained by treating a cell- or virus-containing test sample with a nucleic acid-solubilizing reagent.

13. (Previously Presented) The method according to claim 12, wherein the nucleic acid-solubilizing reagent comprises a guanidine salt, a surfactant and a proteolytic enzyme.

14. (Canceled)

15. (Currently Amended) The method according to claim [[1]] 23, wherein the nucleic acid-washing buffer is a solution containing 20 to 100 % by weight of methanol, ethanol, isopropanol or n-propanol.

16. (Currently Amended) The method according to claim [[1]] 23, wherein the liquid capable of desorbing the nucleic acid adsorbed to the solid phase is a solution having a salt concentration of 0.5 M or lower.

17. (Currently Amended) The method according to claim [[1]] 23, wherein said adsorbing and desorbing of the nucleic acid is carried out by using a unit for separation and purification of said nucleic acid in which a container having at least two openings contains the solid phase.

18. (Currently Amended) The method according to claim [[1]] 23, wherein said adsorbing and desorbing of the nucleic acid is carried out by using a unit for separation and purification of the nucleic acid which comprises (a) a solid phase of a porous film of a surface-saponified triacetylcellulose, (b) a container having at least two openings and containing the solid phase, and (c) a pressure difference-generating apparatus connected to one opening of the container.

19. (Previously Presented) The method according to claim 18, further comprising:

(a) preparing said sample solution containing said nucleic acid by using a test sample and inserting one opening of the unit for separation and purification of said nucleic acid into said sample solution containing the nucleic acid;

(b) sucking the sample solution containing the nucleic acid by making an inside of the container in a reduced pressure condition by using the pressure difference-generating apparatus

connected to the other opening of the unit for separation and purification of the nucleic acid, and contacting the sample solution to the solid phase;

(c) making the inside of the container in a pressurized condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of the nucleic acid, and discharging the sample solution containing the sucked nucleic acid to an outside of the container;

(d) inserting one opening of the unit for separation and purification of the nucleic acid into the nucleic acid-washing buffer;

(e) sucking the nucleic acid-washing buffer by making the inside of the container in the reduced pressure condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of nucleic acid, and contacting the nucleic acid-washing buffer to the solid phase;

(f) making the inside of the container in a pressurized condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of the nucleic acid, and discharging the sucked nucleic acid-washing buffer to the outside of the container;

(g) inserting one opening of the unit for separation and purification of the nucleic acid into the liquid capable of desorbing the nucleic acid adsorbed to the solid phase;

(h) making the inside of the container in the reduced pressure condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of the nucleic acid, and sucking the liquid capable of desorbing the nucleic acid adsorbed to the solid phase on the surface thereof to contact the liquid to the solid phase; and

(i) making the inside of the container in the pressurized condition by using the pressure difference-generating apparatus connected to the other opening of the unit for separation and purification of the nucleic acid, and discharging the liquid capable of desorbing the nucleic acid adsorbed to the solid phase to the outside of the container.

20. (Previously Presented) The method according to claim 18, further comprising:

(a) preparing the sample solution containing the nucleic acid using a test sample and injecting said sample solution containing the nucleic acid into one opening of the unit for separation and purification of the nucleic acid;

(b) making the inside of the container in the pressurized condition by using the pressure difference-generating apparatus connected to said one opening of the unit for separation and purification of the nucleic acid, and discharging the injected sample solution containing the nucleic acid from the other opening to contact the sample solution to the solid phase;

(c) injecting the nucleic acid-washing buffer into said one opening of the unit for separation and purification of the nucleic acid;

(d) making the inside of the container in the pressurized condition by using the pressure difference-generating apparatus connected to said one opening of the unit for separation and purification of the nucleic acid, and discharging the injected nucleic acid-washing buffer from said other opening to contact the nucleic acid-washing buffer to the solid phase;

(e) injecting the liquid capable of desorbing the nucleic acid adsorbed to the solid phase into said one opening of the unit for separation and purification of nucleic acid; and

(f) making the inside of the container in the pressurized condition by using the pressure

difference-generating apparatus connected to said one opening of the unit for separation and purification of the nucleic acid, and discharging the liquid capable of desorbing the injected nucleic acid from said other opening, so as to desorb the nucleic acid adsorbed to the solid phase and discharge the nucleic acid to the outside of the container.

21-22. (Canceled)

23. (Currently Amended) A method for separating and purifying nucleic acids having a length of 2 kb or shorter and nucleic acids having a length of 10 kb or longer from a nucleic acid sample solution comprising said nucleic acids, which comprises the following steps performed in the following order:

adsorbing a nucleic acid mixture comprising nucleic acids having lengths of 2 kb or shorter and comprising nucleic acids having lengths of 10 kb or longer to a first solid phase, wherein the first solid phase comprises a porous film of surface-saponified triacetylcellulose having a surface saponification rate of 50% and a pore size between 0.1 μm and 0.2 μm;

collecting nucleic acids which ~~does~~ do not adsorb to the first solid phase to obtain a first flow through fraction;

washing the first solid phase using a nucleic acid-washing buffer;

desorbing the nucleic acids adsorbed to the first solid phase by using a liquid capable of desorbing the nucleic acids adsorbed to the solid phase, thereby obtaining purified and separated nucleic acids having a length of ~~2 kb or shorter,~~ 10 kb or longer;

adsorbing the first flow through fraction to a second solid phase, wherein the second solid phase comprises a porous film of surface-saponified triacetylcellulose having a surface saponification rate of 100% and a pore size of between 2.5 μm [[to]] and 10 μm;

collecting nucleic acids which do not adsorb to the second solid phase to obtain a second flow through fraction;

adsorbing the second flow through fraction to a third solid phase, wherein the third solid phase comprises porous film of surface-saponified triacetylcellulose having a surface saponification rate of 100% and a pore size of between ~~0.1 μm and 2.5 μm~~ 0.2 μm and 0.4 μm;

washing the third solid phase using a nucleic acid-washing buffer; and

desorbing the nucleic acids adsorbed to the third solid phase by using a liquid capable of desorbing the nucleic acid adsorbed to the third solid phase, thereby obtaining purified and separated nucleic acids having a length of ~~10 kb or longer~~ 2 kb or shorter.

24. (Canceled)